IPL T SF24

Two Serial and Four Flex I/O Port IP Link® Ethernet
Control Interface

FEATURES

- **Two bidirectional RS-232, RS-422, or RS-485 serial ports** — For remotely and proactively monitoring and troubleshooting projectors, flat-panel displays, switchers, and other serially controlled devices.

- **Four Flex I/O ports** — Can be configured as analog inputs, digital inputs, or digital outputs and can interface with a variety of devices such as sensors, switches, LEDs, and relays.

- **Serial port pass-through** — Enables commands to be passed through from one serial port to another to control a single device.

- **Enables Web-based A/V resource management** — When used with GlobalViewer software, the IPL T SF24 provides a powerful, flexible way to manage, monitor, and control projectors, flat-panel displays, and other devices using a standard Ethernet network.

- **Integral high performance Web server** — Each IP Link interface features a built-in Web server with memory available for storing device drivers, GlobalViewer, and custom user Web pages.

- **Supports industry standard communications protocols** — All IP Link models use industry standard communication protocols, including ARP, ICMP, IP, TCP, UDP, DHCP, HTTP, SMTP, and Telnet.

- **Simultaneous multi-user support** — Each IP Link device supports multiple concurrent users, improving system throughput.

- **E-mail notification enables proactive support** — Technical support administrators and others can receive failure and service messages through an e-mail enabled cell phone, PDA, pager, or Internet e-mail account.

- **Multiple levels of access with password protection** — User access level authorizes limited entry to only pre-designated functions, while administrator access level permits full access to advanced settings.

- **Free Global Configurator, easy-to-use configuration utility** — Global Configurator software, a Windows® based configuration utility, makes product setup simple and intuitive no programming knowledge is required.

- **Free GlobalViewer®, Web-based A/V resource management application** — When used with GlobalViewer, IP Link interfaces provide a powerful, flexible way to manage, monitor, and control both Extron and third-party equipment like projectors, plasmas, monitors, VCRs, DVD players, and other devices using a standard TCP/IP network.

- **Extensive library of device drivers** — Device drivers allow Extron products to control various display and source devices, such as projectors, flat-panel displays, and DVD players. Extron has produced thousands of fully tested and uniformly modeled RS-232 and IR device drivers.

- **Internal real-time clock** — Programmable operating alerts, sequencing, and automatic monitoring, together with the real-time clock and calendar, allow IP Link interfaces to routinely check configured devices.

- **Plenum rated - meets UL 2043 for heat and smoke release, excluding power supply**

- **External universal power supply included, replacement part # 70-775-01** — Provides worldwide power compatibility.

DESCRIPTION

The Extron **IPL T SF24** is a compact Ethernet control interface with a high performance Web server, two serial ports, and four Flex I/O ports. The IPL T SF24 is designed to integrate IP - Internet Protocol connectivity into A/V systems, giving users the ability to remotely and proactively monitor and troubleshoot projectors, flat-panel displays, switchers, and other products.

The IPL T SF24 uses Extron's exclusive IP Link® technology, a high performance intelligent network integration solution specifically engineered to meet the needs of professional A/V environments, from large universities and businesses to small home installations. Multiple Ethernet-enabled A/V products can be managed and supported using a networked computer running Internet Explorer 6.0 or later.

Serial ports

The IPL T SF24 features two 9-pin D-sub serial ports that can control two RS-232, RS-422, or RS-485 serial devices directly. When configured for pass-through mode, the IPL T SF24 can pass through commands from an existing control system without losing the ability to communicate with the A/V device. The IPL T SF24 also includes two captive screw serial ports that are connected in parallel with the 9-pin serial ports.

Flex I/O Ports

Four Flex I/O ports allow the IPL T SF24 to accept an input voltage and then send out a serial command, send an e-mail or trigger another event. These ports can support TTL and analog signals from 0 to 24 volts, allowing a wide variety of devices to be controlled and monitored. The Flex I/O ports can be configured in three ways: analog in, digital in, or digital out.

Flex I/O ports can be configured to receive analog voltages for use with photo sensors, level feedback, strain gauges, thermocouples, variable potentiometers and other devices. Incoming analog voltages from 0 to 24 volts are sampled with 12-bit precision. For example, a thermal sensor installed in an equipment rack can be connected to one of the Flex I/O inputs, and the IPL T SF24 can be configured to send an e-mail message, turn on auxiliary cooling fans and turn off equipment if the rack temperature exceeds a specified temperature value.

Configured as digital inputs, the Flex I/O ports can connect to switches, motion sensors, moisture sensors and tally feedback. This provides the ability to receive status from a variety of devices including projector lifts, motorized projection screens, room partition switches, and push buttons.

When configured as digital outputs, the Flex I/O ports can drive LEDs, 24 volt incandescent lamps, or other devices that accept a TTL input signal. For applications that require contact closure control, the Flex I/O ports can interface with an Extron IPA T RLY4, an IP Link accessory featuring four isolated relays.

MODEL	VERSION DESCRIPTION		PART #
IPL T SF24	Two serial, four Flex I/O		60-544-02

OPTIONAL ACCESSORIES	MODEL DESCRIPTION	PAGE	PART #
RSU 129	1U 9.5" Deep Universal Rack Shelf Kit	page 858	60-190-01
RSF 123	1U 3.5" Deep VersaTools® Rack Shelf Kit	page 857	60-190-20
MBU 123	VersaTools® Mini Under-Desk Mount Kit	page 854	70-212-01
PMK 100	One VersaTools®, 1/4 Rack Width Pole Mount Kit	page 852	70-217-01

IPL T SF24

DESCRIPTION (CONTINUED)

E-mail Capabilities for Proactive Service

With e-mail notification, technical support administrators can receive failure and service messages through an e-mail enabled cell phone, PDA, pager, or Internet e-mail account. For secure installations that do not allow Internet access, online monitoring can still be performed proactively. Within an existing secure infrastructure, e-mail notification of failures and repairs is possible without compromising system security.

SPECIFICATIONS

ETHERNET CONTROL INTERFACE

Connectors	1 RJ-45 female connector
Data rate	10/100Base-T, half/full duplex with autodetect
Protocols	ARP, DHCP, ICMP (ping), TCP/IP, UDP/IP, Telnet, HTTP, SMTP
Default settings	Link speed and duplex level = autodetected
	IP address = 192.168.254.254
	Subnet mask = 255.255.0.0
	Gateway = 0.0.0.0
	DHCP = off
Web server	Up to 200 simultaneous sessions
IPL T SF24	1.25 MB nonvolatile user memory
IPL T SFI244	7.25 MB nonvolatile user memory
Program control	Extron's Simple Instruction Set (SIS)
Global Viewer requirements	Microsoft® Internet Explorer ver. 6 or higher

SERIAL CONTROL INTERFACE

Quantity/type	
IPL T SF24	2 RS-232/RS-422/RS-485 configurable serial
IPL T SFI244	2 RS-232 only
Connectors	
IPL T SF24	(2) 9-pin male D and (1) 3.5 mm captive screw connector, 5 pole
IPL T SFI244	(1) 3.5 mm captive screw connector, 5 pole
Baud rate and protocol	300 to 115200 baud
	Default settings (adjustable): 9600 baud, 8 data bits, 1 stop bit, no parity
Pin configurations	
Serial, 9-pin D — IPL T SF24	
RS-232 (default)	2 = RX, 3 = TX, 5 = GND, 7 = RTS, 8 = CTS
RS-422	2 = RX-, 3 = TX-, 5 = GND, 7 = TX+, 8 = RX+
RS-485	2 and 3 (tied together) = data-, 5 = GND, 7 and 8 (tied together) = data+
Serial, 5-pole captive screw — both models	
	COM1: pin 1 = TX, 2 = RX, 3 = GND
	COM2: pin 4 = TX, 5 = RX, 3 = GND

FLEX I/O CONTROL INTERFACE

Quantity/type	4 analog input or digital input/output(configurable)
Connectors	(1) 3.5 mm captive screw connector, 5 pole
Digital inputs	
Input voltage range	0 to 24 VDC, clamped at +30 VDC
Input impedance	28k ohms
Programmable pullup	2k ohms to +5 VDC
Threshold low to high	Programmable range: 100 mV to 24 VDC, default = 2 VDC
Threshold high to low	Programmable range: 100 mV to 24 VDC, default = 1 VDC
Digital outputs	250 mA sink from 24 VDC max.
Analog inputs	12 bit A/D, 0 to 24 VDC
Pin configurations	1, 2, 3, 4 = digital I/Os 1, 2, 3, 4; 5 = GND

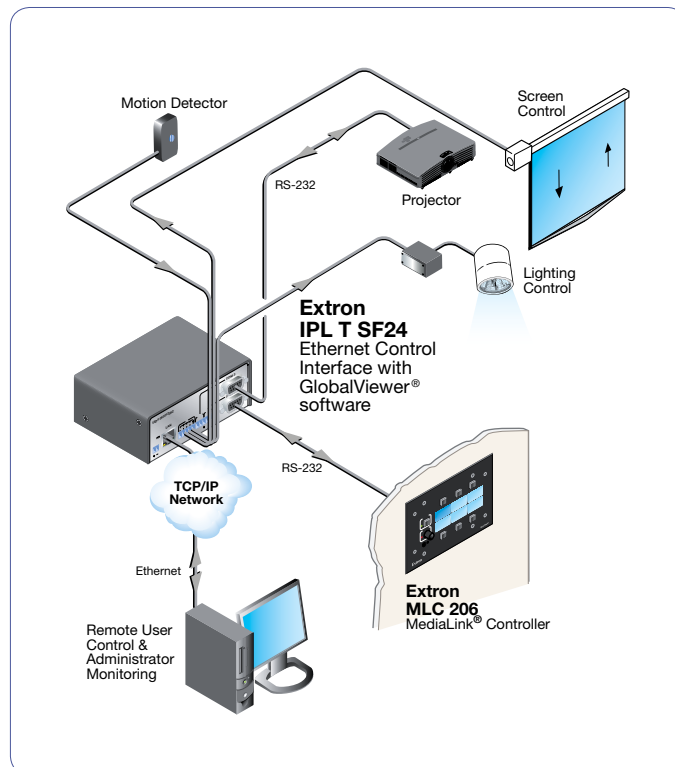### IR/SERIAL — IR/S CONTROL INTERFACE — IPL T SFI244 ONLY

Quantity/type	4 IR or serial
Connectors	(1) 3.5 mm captive screw connector, 8 pole
IR output carrier frequency	30 kHz to 1 MHz
Pin configurations	Pins 1, 3, 5, 7 = S 1, S2, S3, S4
	Pins 2, 4, 6, 8 = GND
IR learning carrier frequency	30 kHz to 1 MHz
IR learning capture distance	2" (5.1 cm) to 12" (30.5 cm) from the front panel

GENERAL

Power	Supplied by an included external power supply
External power supply	100 VAC to 240 VAC, 50/60 Hz, external; to 12 VDC, 1 A, regulated
Power input requirements	12 VDC, 0.5 A
Temperature/humidity	Storage: -40 to +158 ˚F (-40 to +70 ˚C) / 10% to 90%, noncondensing
	Operating: +32 to +122 ˚F (0 to +50 ˚C) / 10% to 90%, noncondensing
Mounting	
Rack mount	Yes, with optional 1U, 9.5" deep rack shelf kit, part #60-190-01 (RSU 129); or 1U, 3.5" deep VersaTools® rack shelf kit, part #60-190-20 (RSF 123)
Furniture mount	Yes, with optional under-desk mounting kit, part #70-212-01 (MBU 123)
Pole mount	Yes, with optional mini pole mount kit, part #70-217-01 (PMK 100)
Enclosure type	Metal
Enclosure dimensions	1.7" H x 4.3" W x 3.0" D (1U high, quarter rack wide)
	(4.3 cm H x 10.9 cm W x 7.6 cm D)
	(Depth excludes connectors.)
Product weight	0.7 lbs (0.3 kg)
Shipping weight	2 lbs (1 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Regulatory compliance	
Safety	CE, CUL, UL
	UL rated for use in plenum airspaces: meets UL 2043 for heat and smoke release, excluding the power supply; meets UL 60950 for safety
EMI/EMC	CE, C-tick, FCC Class A, ICES, VCCI
MTBF	30,000 hours
Warranty	3 years parts and labor

NOTE: All nominal levels are at ±10%.

NOTE: Specifications are subject to change without notice.

Extron
IPL T SF24
Ethernet Control Interface with GlobalViewer® software

Motion Detector

Screen Control

RS-232

Projector

Lighting Control

TCP/IP Network

RS-232

Ethernet

Remote User Control & Administrator Monitoring

Extron MLC 206
MediaLink® Controller

Free GlobalViewer Asset Management Application

Extron®